

REMARKS

Claims 26, 28, 30, 31, 33, 34, 37, 38, 44, and 48 have been amended. Claims 57-62 have been newly added. Claims 26-28, 30-35, 37, 38, 40-48, and 57-62 are pending in the application. Claims Applicants reserve the right to pursue the original claims and other claims in this and other applications.

The Office Action states that no patentable weight has been given to the term “configured to” in claims 26, 28, 30, 31, 33, 34, 37, 38, 44, and 48. Claims 26, 28, 30, 31, 33, 34, 37, 38, 44, and 48 have been amended to recite that a particular element “comprises a configuration enabling” the particular element to perform a particular function. Applicant respectfully submits that this limitation makes clear that the element must comprise a particular configuration and therefore must be given patentable weight.

Claims 26-28, 30-35, 37, 38, 40, and 44-48 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over PCT Publication WO 97/20434 (“Denyer”) in view of U.S. Patent No. 5,652,621 (“Adams”). This rejection is respectfully traversed.

Independent claim 26 recites “an interpolator located on the substrate and comprising a configuration enabling the interpolator to estimate the level of the first spectral component in the light received by at least one of the second photosensitive sites based on at least one measurement of the first spectral component obtained respectively by at least one of the first photosensitive sites” wherein “each first photosensitive site comprises a configuration enabling each first photosensitive site to measure the level of a first spectral component in light received by the respective first photosensitive site” and “each second photosensitive site comprises a configuration enabling each second photosensitive site to measure the level of a second spectral component in light received by the respective second site, said second spectral component being different from said first spectral component.” The Denyer and Adams combination does not teach or suggest these limitations, or otherwise render claim 26 obvious.

To the contrary, Denyer only refers to “a processing unit 28” that “preferably also interpolates the red, green, and blue channel signals to form synchronous, parallel colour channel signals for the video signal V_{RGB} before being output to the display unit 30.” (Denyer, page 12, lines 8-14). Denyer does not describe how the processing unit 28 interpolates the red, green, and blue channel signals or what data is used for the interpolation. The Office Action acknowledges that Denyer “does not explicitly disclose that estimating the level of the first spectral component in the light received by at least one of the second photosensitive sites based on at least one measurement of the first spectral component obtained respectively by at least one of the first photosensitive sites.” (Office Action, page 6). The Office Action states that it would be obvious to modify the imager in Denyer to have the interpolator of Adams. Applicant respectfully disagrees with this statement.

Adams discusses a “digital signal processor 22 [that] applies an interpolation algorithm to the digital image signals.” (Adams, column 3, lines 24-25). The digital signal processor 22 of Adams completes a number of complex interpolations and calculations, including those shown in FIGS. 2, 3, 4, and 5 of Adams, to process the digitized signal image. Adams does not teach or suggest that its complex digital signal processor 22 could be located on a substrate that also includes an array of photosensitive sites. Furthermore, Denyer does not teach or suggest that its processing unit 28 would be capable of performing the complex interpolations and calculations discussed by Adams. Therefore, it would not have been obvious to either place the Adams digital signal processor 22 on the same chip having the Denyer integrated circuit image array sensor or to perform the calculations discussed by Adams using the processing unit 28 of Denyer.

Since the Denyer and Adams combination does not teach or suggest all of the limitations of claim 26, claim 26 is not obvious over the cited combination. Independent claims 37 and 44 include limitations similar to those of claim 26 and are allowable for the same reason. Claims 27, 28, and 30-35 depend from claim 26 and are patentable at least for the reasons mentioned above. Claims 38, and 40 depend from claim 37 and are patentable at least for the reasons mentioned above. Claims 45-48 depend from claim 44 and are patentable at least for the reasons mentioned above. Applicant respectfully requests that the rejection be withdrawn and the claims allowed.

Claim 41 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Denyer in view of Adams and U.S. Patent No. 6,091,851 ("Acharya"). This rejection is respectfully traversed. Claim 41 depends from claim 37 and is patentable over Denyer in view of Adams for at least the reasons mentioned above. Acharya, which has been cited as allegedly teaching the use of 24 bits, does not cure the deficiencies discussed above. Accordingly, Applicant respectfully requests that the rejection be withdrawn and the claims allowed.

Claims 42 and 43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Denyer in view of Adams and U.S. Patent No. 6,133,953 ("Okada"). This rejection is respectfully traversed. Claims 42 and 43 depend from claim 37 and are patentable over Denyer in view of Adams for at least the reasons mentioned above. Okada, which has been cited as allegedly teaching the use of a serial register, does not cure the deficiencies discussed above. Accordingly, Applicants respectfully request that the rejection be withdrawn and the claims allowed.

In view of the above, Applicant believes the pending application is in condition for allowance.

Dated: May 4, 2009

Respectfully submitted,

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